

CLAIMS

1. A system for monitoring wafer throughput per hour in a wafer furnace, comprising:
 - a database that includes two or more operation histories of the wafer furnace;
 - an analysis unit, the analysis unit being coupled to the database, the analysis unit including:
 - logic that retrieves at least one operation history from the database;
 - logic that determines a standard process time for the retrieved at least one operation history and a specification range; and
 - logic that receives a current process time for the current process;
 - a comparison unit coupled to the analysis unit, the comparison unit including logic that compares the standard process time and the specification range to the current process time; and
 - an output unit coupled to the comparison unit and including logic that outputs a comparison result.
2. The system of claim 1, wherein the standard process time is a mean process time of the at least one retrieved operation history.
3. The system of claim 1, wherein when the at least one retrieved operation history includes a single operation history, the specification range is about equal to the mean process time of the at least one retrieved operation history.

4. The system of claim 1, wherein when the at least one retrieved operation history includes a plurality of retrieved operation histories, the specification range is a range of mean process times of each of the retrieved operation histories that excludes at least one of a maximum mean process time and a minimum mean process time.

5. The system of claim 1, wherein the specification range is about equal to a predetermined range about the mean process time of the retrieved at least one operation history.

6. The system of claim 1, wherein each of the two or more operation histories includes a process time for a plurality of wafers during a specified time frame.

7. The system of claim 6, wherein the current process time includes the process time of a most recently completed batch.

8. The system of claim 6, wherein the specified time frame includes a single operator shift.

9. The system of claim 6, wherein the specified time frame includes a single operator day that includes two or more operator shifts.

10. The system of claim 1, wherein the comparison result is a warning when the current process time falls outside the specification range.

11. The system of claim 1, further comprising an access unit that accesses the database.

12. The system of claim 1, wherein the two or more operation histories of the wafer furnace excludes overlapping processes.

13. The system of claim 1, wherein the two or more operation histories of the wafer furnace excludes manual processes.

14. The system of claim 1, wherein the comparison result includes a user notification.

15. The system of claim 1, wherein the output unit outputs a comparison result when the received current process time is not within the specification range.

16. A method for monitoring wafer throughput per hour in a wafer furnace, comprising:

retrieving at least one operation history from a database that includes two or more operation histories of the wafer furnace;

determining a standard process time for the at least one retrieved operation history and a specification range;

receiving a current process time for the current process;

comparing the standard process time and the specification range to the current process time; and

outputting a comparison result.

17. The method of claim 16, wherein the standard process time is a mean process time of the at least one retrieved operation history.

18. The method of claim 16, wherein when the at least one retrieved operation history includes a single operation history, the specification range is about equal to the mean process time of the retrieved at least one operation history.

19. The method of claim 16, wherein when the at least one retrieved operation history includes a plurality of operation histories, the specification range is a range of mean process times of each of the retrieved operation histories that excludes at least one of a maximum mean process time and a minimum mean process time.

20. The method of claim 16, wherein the specification range is equal to a predetermined range about the mean process time of the retrieved at least one operation history.